UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,924	03/26/2004	Toni Kopra	872.0180.U1(US)	9401

29683   7590   07/21/2009
HARRINGTON & SMITH, PC
4 RESEARCH DRIVE, Suite 202
SHELTON, CT 06484-6212

EXAMINER
SAMS, MATTHEW C

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
07/21/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/810,924	KOPRA ET AL.
	Examiner	Art Unit	
	MATTHEW SAMS	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *13 April 2009*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-9,12,16-20,22-27,30,35,37,38,40 and 47-70* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *37,38,40,47 and 56-70* is/are allowed.

6) ☒ Claim(s) *1-9,12,16-20,22-27,30,35 and 48-55* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This office action has been changed in response to the Applicant's amendment filed on 4/13/2009.

2.   Claims 1, 23, 37, 48, 50, 56 and 57 have been amended. Claims 58-70 have been added.

Response to Arguments

3.   Applicant's arguments with respect to claims 1-9, 12, 16-20, 22-27, 30, 35, 37, 38, 40 and 47-70 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-9, 12, 16, 17, 22-27, 30, 35 and 48-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US-6,990,453 hereinafter, Wang) in view of Rhoads et al. (US-7,185,201 hereinafter, Rhoads).

        Regarding claim 1, Wang teaches an apparatus (Col. 7 line 67 through Col. 8 line 5) comprising:

an interface configured to receive a media sample; (Fig. 1 [12] and Col. 5 line 36

through Col. 6 line 15)

a processor configured to extract a first set of lower level but not higher level

features from a digital version of the media sample; (Col. 6 lines 14-34 and Fig. 1 [14])

a transmitter configured to transmit the extracted first set of lower level but not

higher level features over a wireless communication link; (Col. 6 line 61 through Col. 7

line 11 and Col. 8 lines 5-24)

and inherently includes a receiver for receiving information over a wireless

communication link (Col. 7 line 67 through Col. 8 line 5 "mobile phone") an notification

as to identification of a media corresponding to the media sample from the remote

service. (Col. 7 lines 57-59, Col. 16 lines 55-56 and Col. 17 lines 31-34)

Wang differs from the claimed invention by not explicitly reciting the receiver is

for receiving a request message over the wireless link that requests at least one

additional feature and the processor is automatically responsive to the request message

to extract a second set of features from the digital version of the media sample and the

transmitter is further to transmit the extracted second set of lower level but not higher

level features for any necessary higher level feature extraction for matching in

conjunction with the first and second sets of lower level features.

In an analogous art, Rhoads teaches a system for identifying audio samples

(Abstract and Col. 3 lines 17-25) that includes the ability to extract multiple fingerprints

from a file in order to resolve ambiguity (Col. 3 lines 22-25) with the additional ability to

combine multiple fingerprints into a higher level fingerprint. (Col. 3 lines 6-13 "master

fingerprint") At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement the mobile station of Wang after modifying it to incorporate the ability to increase resolution to resolve ambiguity of Rhoads. One of ordinary skill in the art would have been motivated to do this since it enables back and forth communication to resolve ambiguity and to ensure a matching file. (Rhoads Col. 3 lines 22-25)

Regarding claim 2, Wang in view of Rhoads teaches the interface comprises a transducer. (Wang Col. 7 line 67 through Col. 8 line 5)

Regarding claim 3, Wang in view of Rhoads teaches the transducer comprises a microphone and the media sample comprises an audio sample. (Wang Col. 5 lines 36-59, Col. 7 line 67 through Col. 8 line 5, Fig. 1 [12] and Col. 15 lines 25-58)

Regarding claim 4, Wang in view of Rhoads teaches the transducer comprises a camera and the media sample comprises a visual sample. (Wang Col. 5 lines 36-59)

Regarding claim 5, Wang in view of Rhoads obviously teaches the interface comprises one of a cable and a wireless link. (Wang Col. 7 line 67 through Col. 8 line 5 and Col. 15 lines 25-58)

Regarding claim 6, Wang in view of Rhoads teaches the media sample that the interface receives is the digital version. (Wang Col. 15 lines 25-58)

Regarding claim 7, Wang in view of Rhoads teaches the transmitter is further configured to transmit a message that includes the at least one extracted lower level but not higher level feature and no portion of the digital version of the media sample.

(Wang Col. 4 lines 23-32 [LPC coefficients and frequency components of spectrogram peaks])

Regarding claim 8, Wang in view of Rhoads teaches the processor is further configured to adaptively select a number of lower level but not higher level features to extract based on the digital version of the media sample. (Wang Col. 4 lines 23-32 [LPC coefficients and frequency components of spectrogram peaks])

Regarding claim 9, Wang in view of Rhoads teaches the processor is further configured to adaptively select at least one type of feature to extract based on the digital version of the media sample, the processor extracts at least one feature of the adaptively selected type, and wherein the transmitter is further configured to transmit an identifier of the selected type of feature. (Wang 4 lines 15-41 and Col. 7 line 3 through Col. 8 line 24)

Regarding 12, Wang in view of Rhoads teaches a user interface for causing the transmitter to transmit the first set of lower level but not higher level features, and a buffer to store at least a portion of the digital version of the media sample, wherein the processor extracts at least some of the first set prior to a user input at the said user interface. (Wang Col. 21 line 57 through Col. 22 line 50)

Regarding claim 16, Wang in view of Rhoads teaches a user interface (Wang Col. 5 lines 36-59 and Col. 7 line 67 through Col. 8 line 24) by which a single user input initiates:

the processor to extract the first set of lower level but not higher level features, a wireless communications link to be established between the MS and a communication

service, and the extracted first set of lower level but not higher level features to be transmitted over the wireless communications link. (Wang Col. 6 line 61 through Col. 7 line 36 and Col. 7 line 67 through Col. 8 line 24)

Regarding claim 17, Wang in view of Rhoads teaches the single user input further initiates a buffer disposed between the transducer and the processor to begin storing at least a portion of the digital version of the media sample. (Wang Col. 15 line 25 through Col. 16 line 2)

Regarding claim 22, Wang in view of Rhoads teaches the request message specifically identifies each additional feature at least by type and the second set of features comprises only features of the said identified type. (Wang Col. 15 line 59 through Col. 16 line 2)

Regarding claim 23, Wang in view of Rhoads teaches a computer readable storage medium embodied with a computer program (Wang Col. 7 line 67 through Col. 8 line 24) comprising:

a first set of computer instructions to extract in response to a user input, a first set of lower level but not higher level features from a digital media sample (Wang Col. 6 lines 14-34 and Fig. 1 [14]), and to extract in response to a received request message to the device from a remote service, through wireless communications, a second set of lower level but not higher level features consistent with additional features that are requested in the request message, (Rhoads Col. 3 lines 6-25 and Wang Col. 7 line 67 through Col. 8 line 21 *i.e.* receiving the file fingerprints over multiple messages) and

a second set of computer instructions to transmit in separate messages (Wang Col. 7 lines 3-11 and Col. 8 lines 16-21) the first and second sets of extracted lower level but not higher level features over a wireless communication link to a remote service (Wang Col. 7 line 67 through Col. 8 line 24) for any necessary higher level feature extraction for matching in conjunction with the first and second sets of lower level features; (Rhoads Col. 3 lines 6-16 and lines 22-25) and

a third set of computer instructions for receiving a notification of identification of a media corresponding to the media sample from the remote service. (Wang Col. 7 lines 57-59, Col. 16 lines 55-56, Col. 17 lines 31-34 and Rhoads Col. 3 lines 46-62)

Regarding claim 24, the limitations of claim 24 are rejected as being the same reason set forth above in claim 7.

Regarding claim 25, the limitations of claim 25 are rejected as being the same reason set forth above in claim 8.

Regarding claim 26, the limitations of claim 26 are rejected as being the same reason set forth above in claim 9.

Regarding claim 27, Wang in view of Rhoads teaches the ability to transmit extracted features and time-bounded segments. (Wang Col. 6 line 61 through Col. 7 line 11 and Rhoads Col. 3 lines 6-25)

Regarding claim 30, Wang in view of Rhoads teaches at least one feature defines a timepoint, the first set of computer instructions is to extract at least one timepoint from the digital media sample, and one of said messages comprises a timepoint, a spectral slice of the digital media sample and an identifier that links the

spectral slice to the timepoint. (Wang Fig. 8A and Col. 6 line 35 through Col. 7 line 36, Col. 8 line 61 through Col. 9 line 32 and Col. 21 lines 13-29)

Regarding claim 35, the limitations of claim 35 are rejected as being the same reason set forth above in claim 19.

Regarding claim 48, the limitations of claim 48 are rejected as being the same reasons set forth above in claim 23.

Regarding claim 49, Wang in view of Rhoads teaches the means for receiving a media sample comprises a transducer, and the means for extracting comprises a digital processor. (Wang Col. 7 line 12 through Col. 8 line 5 and Col. 15 lines 53-55)

Regarding claim 50, the limitations of claim 50 are rejected as being the same reasons set forth above in claim 1.

Regarding claim 51, Wang in view of Rhoads teaches the sampling device is a phone or PDA (Wang Col. 7 line 67 through Col. 8 line 5) and it is obvious to one of ordinary skill in the art to recognize that a phone/PDA has buttons that can be configured to initiate the identification of media from the media sample.

Regarding claim 52, the limitations of claim 52 are rejected as being the same reason set forth above in claim 51.

Regarding claim 53, the limitations of claim 53 are rejected as being the same reason set forth above in claim 51.

Regarding claim 54, the limitations of claim 54 are rejected as being the same reason set forth above in claim 51.

Regarding claim 55, Wang in view of Rhoads teaches providing a link, after the remote service identifies the media, that, when activated, accesses a music service for downloading the media. (Rhoads Col. 3 lines 46-58)

6.   Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Rhoads as applied to claim 1 above, and further in view of Vetro et al. (US-6,490,320 hereinafter, Vetro).

Regarding claim 18, Wang in view of Rhoads teaches the limitations of claim 1 above, but differs from the claimed invention by not explicitly reciting the first and second sets of features comprise MPEG-7 descriptors.

In an analogous art, Vetro teaches extracting MPEG-7 descriptors from the digital version of the media sample. (Vetro Col. 4 lines 35-37, Col. 21 lines 57-67 and Col. 22 lines 14-33) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to implement the recognition system of Wang in view of Rhoads after modifying it to incorporate the MPEG-7 descriptors of Vetro in order to better describe the content within the file in order to simplify searches. (Col. 4 line 64 through Col. 5 line 6) One of ordinary skill in the art would have been motivated to do this since knowing the content of the file enables efficient distribution of the content on a network.

Regarding claim 19, Wang in view of Rhoads and Vetro teaches the processor extracts MPEG-7 file information that are lower level but not higher level features and are non-reconstructive of the digital version of the media sample. (Vetro Col. 4 line 64 through Col. 5 line 6 & Col. 22 lines 30-33)

Regarding claim 20, Wang in view of Rhoads and Vetro teaches the extracted features (Vetro Col. 4 line 64 through Col. 5 line 6 & Col. 22 lines 30-33) for which the transmitter is to transmit are non-reconstructive of the digital version of the media sample. (Vetro Col. 4 line 64 through Col. 5 line 6 & Col. 22 lines 30-33)

Allowable Subject Matter

7.   Claims 37, 38, 40, 47 and 56-70 are allowed.

8.   The following is an examiner's statement of reasons for allowance:

Applicant's independent claims 37, 56, 57 and 70 each recite, *inter alia*, the ability to extract two sets of lower level features and from the two sets of lower level features, extracting a variable amount (K) higher level features that is extracted in an iterative loop in order to find a unique match. While extracting a higher level feature from a lower level feature is known (Rhoads Col. 3 lines 6-25 and Vetro Col. 4 lines 35-37, Col. 21 lines 57-67 and Col. 22 lines 14-33) and utilizing an iterative loop for reducing ambiguity is known (Barton Page 5 [0048-0049], Page 6 [0059], Page 7 [0067-0068] and Page 11 [0138]), the combination of utilizing an iterative loop for extracting K higher level features from two sets of lower level features appears to be novel.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.   Accordingly, **THIS ACTION IS MADE FINAL**.   See MPEP § 706.07(a).   Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action.   In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.   In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW SAMS whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MATTHEW SAMS/
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617